



PUBLIC NOTICE

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CHANGE TO SELECT INVENTORY ANNOUNCED FOR THE AUCTION OF FLEXIBLE-USE SERVICE LICENSES IN THE 3.45–3.55 GHz BAND FOR NEXT-GENERATION WIRELESS SERVICES (AUCTION 110)

UPDATED TECHNICAL GUIDES AVAILABLE

AU Docket No. 21-62

I. INTRODUCTION

1. By this Public Notice, the Office of Economics and Analytics (OEA) and the Wireless Telecommunications Bureau (WTB) announce a change to the categories and the conditions applicable to the licenses that will be available for bidding in the forthcoming auction of new flexible-use licenses in the 3.45–3.55 GHz band (Auction 110). As a result of the special temporary authority granted to Lockheed Martin, there are changes to the inventory in three partial economic areas (PEAs): PEA 41 (Syracuse, NY), PEA 44 (Rochester, NY), and PEA 227 (Watertown, NY).¹ In addition, we correct an error in Attachment A (PEA Information, Upfront Payments, and Minimum Opening Bids) to accurately indicate certain PEAs in which coordination requirements apply to both the upper six blocks (Category 2 blocks E-J) and the lower four blocks (Category 1 blocks A-D). Also, OEA and WTB make available guides that provide technical and mathematical detail regarding the bidding procedures for the clock and assignment phases of Auction 110.

II. BACKGROUND

A. The Procedures and Inventory Established for Auction 110

2. On June 9, 2021, OEA and WTB released a public notice establishing the procedures to be used for Auction 110.² The *Auction 110 Procedures Public Notice* detailed application requirements, minimum opening bids, upfront payments, and other procedures for Auction 110. Bidding in Auction 110 is scheduled to begin on October 5, 2021. The window for submitting a short-form application to participate in Auction 110 begins on July 8, 2021, at 12:00 p.m. ET and ends on July 21, 2021, at 6:00 p.m.

3. Auction 110 will offer 4,060 new flexible-use licenses for spectrum in the 3.45–3.55 GHz band (3.45 GHz band) throughout the contiguous United States.³ The 100 megahertz of spectrum in the

¹ See *Lockheed Martin Request for Part 90 Special Temporary Authority to Operate Two Radiolocation Service Sites in the 3.45 GHz Band*, Order, DA 21-693, at 7-10 (WTB/OET June 16, 2021) (*Lockheed Order*).

² See generally *Auction of Flexible-Use Service Licenses in the 3.45–3.55 GHz Band for Next-Generation Wireless Services; Notice and Filing Requirements, Minimum Opening Bids, Upfront Payments, and Other Procedures for Auction 110*, AU Docket No. 21-62, Public Notice, DA 21-655 (rel. June 9, 2021) (*Auction 110 Procedures Public Notice*).

³ *Auction 110 Procedures Public Notice* at 5, para. 7.

band will be licensed on an unpaired basis and divided into ten 10-megahertz blocks in the PEAs located in the contiguous 48 states and the District of Columbia.⁴ These 10-megahertz blocks will be designated as A through J.⁵

4. In most PEAs, new licensees generally will have unrestricted use of all ten frequency blocks. Certain blocks in the 3.45 GHz band are subject to cooperative sharing requirements, as described in the *3.45 GHz Second Report and Order*,⁶ and the Public Notice issued jointly by the Commission, through WTB, and the National Telecommunications and Information Administration (NTIA).⁷ Under this cooperative sharing framework, existing federal users are prohibited from causing harmful interference to non-federal operations, except in limited circumstances and locations—Cooperative Planning Areas and Periodic Use Areas—where non-federal systems will not be entitled to protection against harmful interference from federal operations.⁸ In PEAs that cover, wholly or in part, Cooperative Planning Areas or Periodic Use Areas, incumbent federal station operators⁹ and new flexible-use licensees must coordinate with each other to facilitate shared use of the band in these specified areas and during specified time periods as described in the *3.45 GHz Second Report and Order*.¹⁰

5. In some of the PEAs where coordination is required, all ten blocks will be subject to the same restrictions. In others, the restrictions will vary depending upon the frequency block. Specifically, in some PEAs subject to coordination with federal incumbents, the A through D blocks may be subject to different restrictions than the E through J blocks.¹¹ Accordingly, the *Auction 110 Procedures Public Notice* established bidding categories as follows: in the 334 PEAs where all ten blocks would either be unrestricted or all subject to the same restrictions, the ten blocks would be considered Category 1, or “Cat1.”¹² In the 72 PEAs where the restrictions would differ among the ten blocks according to the

⁴ *Id.*

⁵ *Id.*

⁶ See *Facilitating Shared Use in the 3100-3550 MHz Band*, WT Docket No. 19-348, Second Report and Order, Order on Reconsideration, and Order of Proposed Modification, FCC 21-32 (Mar. 18, 2021) (*3.45 GHz Second Report and Order*) at 5-6, 11, 12-14, paras. 8-9, 21, 23-25. See also *Auction 110 Procedures Public Notice* at 40, para. 115.

⁷ *The Federal Communications Commission and the National Telecommunications and Information Administration: Coordination Procedures in the 3.45–3.55 Band*, WT Docket No. 19-348, Public Notice, DA 21-645 (WTB/NTIA Jun. 2, 2021) (*Joint Coordination Public Notice*).

⁸ See *3.45 GHz Second Report & Order* at 5-6, 11, paras. 8-9, 21. Cooperative Planning Areas are areas in which the DoD anticipates that federal operations will continue after the assignment of flexible use licenses in the band; Periodic Use Areas overlap with certain Cooperative Planning Areas and are areas in which the DoD will need episodic access to all or a portion of the band in specific, limited geographic areas. See *id.* at 13-14, para. 25. Within Cooperative Planning and Periodic Use Areas, federal and non-federal operators may reach mutually acceptable operator-to-operator agreements to permit more extensive non-federal use by identifying and mutually agreeing upon a technical approach that mitigates the interference risk to federal operations. See *id.* at 12, para. 23 (quoting note US431B to the Table of Allocations).

⁹ Incumbent federal operations include all current and planned federal use in the 3.45–3.55 GHz band.

¹⁰ See *3.45 GHz Second Report and Order* at 12-23, paras. 23-57; see also *Auction 110 Procedures Public Notice* at 55, para. 176.

¹¹ See *Auction 110 Procedures Public Notice* at 55, para. 176; see also *3.45 GHz Second Report and Order* at 15-16, paras. 30-31.

¹² See *Auction 110 Procedures Public Notice* at 55, para. 177.

frequency, the four blocks A through D would be considered Category 1, or “Cat1,” while the six blocks E through J would be considered Category 2, or “Cat2,” for bidding.¹³

6. We remind interested parties that they can find additional information about the cooperative sharing requirements, including information about the encumbrances in specific PEAs, on NTIA’s 3450-3550 MHz webpage at <https://www.ntia.doc.gov/category/3450-3550-mhz>. Interested parties can also find additional guidance and information on federal/non-federal coordination procedures in the public notice issued jointly by NTIA and the Commission.¹⁴

B. Lockheed Martin Corporation’s Operations and Requests for Waiver and for Special Temporary Authority

7. In addition to the sharing requirements described above, the *Auction 110 Procedures Public Notice* alerted prospective bidders to the potential impact of a request from the Lockheed Martin Corporation (Lockheed) for waiver of certain Commission rules across the lower 75 megahertz of the 3.45 GHz band.¹⁵ Lockheed currently operates Research, Development, Test & Evaluation (RDT&E) radar facilities in Cazenovia, NY and Liverpool, NY, using part 5 experimental licenses, to “develop and produce S-band radars ... for use by both the Department of Defense and U.S. allies abroad.”¹⁶ Lockheed states that it has been testing radars in the area since the 1950s and that it has invested tens of millions of dollars in its RDT&E infrastructure.¹⁷

8. Lockheed’s waiver request, filed on April 29, 2021, sought a limited, expedited waiver of sections 5.5 and 5.84 of the Commission’s experimental licensing rules in order to be afforded the right to protection from harmful interference from other operators in the 3.45 GHz band at its RDT&E radar facilities in Cazenovia, NY and Liverpool, NY.¹⁸ The *Auction 110 Procedures Public Notice* referenced Lockheed’s part 5 waiver request, and it advised potential bidders to be aware that any relief granted to Lockheed could affect coordination requirements and spectrum use in blocks A through H in PEAs 41, 44, and 227.¹⁹ Related references to Lockheed’s waiver request in the *Auction 110 Procedures Public Notice* were identified as potential encumbrances across these eight blocks.

9. On June 9, 2021, roughly one month prior to the opening of the Auction 110 short-form application window, Lockheed filed a new, related request for an alternative form of relief covering the same operations in the same cities.²⁰ In that second filing, Lockheed sought special temporary authority (STA) pursuant to Section 1.931(b)(2)(v) of the Commission’s rules²¹ “to operate on a co-primary basis in

¹³ *Id.*

¹⁴ See *Joint Coordination Public Notice*.

¹⁵ See *id.* at 40, para. 116. (“Potential bidders should be aware that if relief substantially similar to that sought by Lockheed were granted, it would affect coordination requirements and spectrum use in blocks A through H in PEAs 41, 44, and 227 for the duration of time of any such grant.”); see also Lockheed Martin Corporation Request for Waiver, WT Docket No. 19-348, AU Docket No. 21-62 (filed Apr. 29, 2021), <https://ecfsapi.fcc.gov/file/10507200669956/Lockheed%20Martin.pdf> (Waiver Request); *Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on Lockheed Martin Corporation Request for Waiver of Certain Experimental Radio Service Rules*, WT Docket No. 19-348, AU Docket No. 21-62, Public Notice, DA 21-539 (rel. May 7, 2021).

¹⁶ See Waiver Request at 2; see also Lockheed Martin Request for Part 90 Special Temporary Authority to Operate Two Radiolocation Service Sites, FCC File No. 0009581172 (filed June 9, 2021) (STA Request) at 3.

¹⁷ See STA Request at 4; Waiver Request at 18.

¹⁸ See generally Waiver Request.

¹⁹ *Auction 110 Procedures Public Notice* at 40, para. 116.

²⁰ See generally STA Request.

the 3.45–3.525 GHz segment two facilities in the Radiolocation Service at Lockheed Martin’s [RDT&E] radar facilities in Cazenovia, NY and Liverpool, NY.”²² Thus, the STA Request and Lockheed’s original Waiver Request sought different forms of relief, but both requests covered the 3.45–3.525 GHz segment of the 3.45 GHz band, and in the same locations.²³ Accordingly, Lockheed indicated that it would withdraw its Waiver Request in the event that its STA Request was granted.²⁴

10. On June 16, 2021, WTB and the Office of Engineering and Technology (OET) issued an order granting Lockheed’s STA Request, permitting Lockheed to operate pursuant to part 90 of the Commission’s rules for 180 days²⁵ in the 3.45–3.525 GHz segment of the 3.45 GHz band, subject to certain conditions and parameters.²⁶ The STA became effective on June 21, 2021.²⁷ Upon the grant of its STA Request, Lockheed promptly withdrew its related Waiver Request on June 17, 2021.²⁸

III. INVENTORY CHANGES FOR AUCTION 110

A. The PEAs Affected by the Lockheed Order and Licensees’ Obligations

11. The STA granted in the *Lockheed Order* will affect the Auction 110 inventory only in PEAs 41 (Syracuse, NY), 44 (Rochester, NY), and 227 (Watertown, NY).²⁹

12. Prospective bidders who are considering bidding on licenses in the three affected PEAs should pay careful attention to the parameters and conditions that have been imposed upon Lockheed’s 180-day STA, as described in detail in the *Lockheed Order*.³⁰ For instance, the licenses issued in blocks A through H of the affected PEAs will be conditioned such that licensees must not cause harmful interference to Lockheed’s RDT&E operations for the duration of the STA, and licensees will be expected to negotiate to reach mutually acceptable agreements to permit operations consistent with applicable conditions for the 180-day duration of the STA.³¹

13. The *Lockheed Order* imposes seven conditions on Lockheed’s STA, including:

- the STA is confined to the 3.45–3.525 GHz segment of the 3.45 GHz band;

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²¹ 47 CFR § 1.931(b)(2)(v).

²² STA Request at 1.

²³ Compare Waiver Request at 1-3, with STA Request at 1-3.

²⁴ STA Request at 10.

²⁵ WTB and OET denied Lockheed’s request for waiver of the 180-day limit that applies to STAs. See *Lockheed Order* at 11-12.

²⁶ See generally *Lockheed Order*.

²⁷ *Id.* at 7.

²⁸ Letter from Jennifer A. Warren, Vice President, Civil & Regulatory Affairs, Lockheed Martin Corporation, to Marlene H. Dortch, Secretary, Federal Communications Commission (June 17, 2021).

²⁹ See *Lockheed Order* at 7-9.

³⁰ See *id.*

³¹ See *id.* at 8-9. We nonetheless emphasize that Lockheed and any Auction 110 winning bidders of licenses in the affected PEAs must be mindful that the prohibition on certain communications between auction applicants will remain in effect until the post-auction down payment deadline. 47 CFR § 1.2105(c); see also *Auction 110 Procedures Public Notice* at 16-22, paras. 43-64. The down payment deadline for Auction 110 will be the later of January 7, 2022, or ten business days after release of the auction closing public notice. *Auction 110 Procedures Public Notice* at 71, para. 253.

- Lockheed may operate on a co-primary, non-harmful interference basis (i.e., Lockheed must address any instances of reported interference that are experienced by 3.45 GHz Service licensees regardless of where and when they occur);
- Lockheed's high-power outdoor RDT&E operations are limited to off-peak hours between midnight and 8:00 a.m. Eastern Time;
- Lockheed's operations during the remaining 16 hours of the day must not exceed 317 Watts ERP;
- Lockheed may adjust its operating hours based on mutual agreement with all affected co-primary licensees;
- the STA grant is subject to any decision that the Commission may reach in connection with pending requests for reconsideration of the *3.45 GHz Second Report and Order*; and
- beginning two months after the release of the public notice announcing winning bidders in Auction 110, and every two months thereafter—until the STA expires—Lockheed must issue a report to WTB and OET detailing its progress in reaching a solution for long-term coordination.³²

B. Categories of Blocks in the PEAs Affected by the Lockheed Order

14. The 180-day STA that the *Lockheed Order* granted applies only to the 3.45–3.525 GHz segment of the 3.45 GHz band.³³ Therefore, in PEAs 41, 44, and 227, the first eight blocks—to which the STA applies and which are designated as A through H—will be considered Category 1, or “Cat1.” The two uppermost blocks—designated as I and J—will be considered Category 2, or “Cat2.” The “Attachment A” file (PEA Information, Upfront Payments, and Minimum Opening Bids) has been updated to reflect this change and posted on the Auction 110 website at www.fcc.gov/auction/110.

15. Potential bidders should take note that in PEAs 41, 44, and 227, there are eight Cat1 blocks and two Cat2 blocks. But in the 72 other PEAs that contain two categories, there are four Cat1 blocks and six Cat2 blocks.³⁴ The other 331 PEAs where all ten blocks will either be unrestricted or all subject to the same restrictions have ten Cat1 blocks.

C. Corrections to Inventory Information Related to CPAs and PUAs

16. The updated “Attachment A” file corrects an error to accurately indicate certain PEAs in which coordination requirements apply to both the upper six blocks (Category 2 blocks E-J) and the lower four blocks (Category 1 blocks A-D). In the PEAs within the Fort Bragg Periodic Use Area (PUA), the category distinctions remain the same, with four Cat1 blocks and six Cat2 blocks. However, the “Attachment A” file originally indicated that only the Cat1 blocks carry requirements for coordination with federal entities, which is incorrect. Both categories have restrictions—the Cat1 blocks are affected by the Fort Bragg PUA, and both Cat1 and Cat2 blocks are affected by overlap with one or more Cooperative Planning Areas (“CPAs”) in certain geographic portions of the PEA. Therefore, in the following PEAs, a licensee for a Cat1 block is subject to restrictions owing both to the PEA's inclusion in the Fort Bragg PUA and to the overlapped CPA or CPAs, while a Cat2 licensee is subject to restrictions corresponding only to the CPA or overlapped CPAs:³⁵ PEA 33 (Virginia Beach, VA), PEA 57 (Richmond, VA), PEA 100 (Greenville, NC), PEA 109 (Rocky Mount, NC), PEA 146 (Wilmington, NC), PEA 169 (Goldsboro, NC), PEA 191 (Petersburg, VA), PEA 309 (Elizabeth City, NC). The auction

³² See *id.* at 8-9.

³³ See *id.* at 9.

³⁴ See *Auction 110 Procedures Public Notice* at 55, para 177.

³⁵ See *3.45 GHz Second Report and Order* at 12-23, paras. 23-57.

inventory now includes a double asterisk indicating this change to the status of the Cat2 blocks in these affected PEAs.

17. An updated version of the “Attachment A” file that includes details about the auction inventory has been posted on the Auction 110 website at www.fcc.gov/auction/110.

IV. UPDATED TECHNICAL GUIDES AVAILABLE

18. The technical guides for bidding procedures in the clock phase and the assignment phase of Auction 110 have been updated. These guides provide examples and serve as supplements to the bidding and bid processing procedures for the clock and assignment phases as described by the Commission in the *Auction 110 Procedures Public Notice*.³⁶ The guides, which are entitled *Auction 110 Clock Phase Technical Guide* and *Auction 110 Assignment Phase Technical Guide*, respectively, are available on the Commission’s Auction 110 website (www.fcc.gov/auction/110) in the Education section, where they will remain available and accessible for reference.

19. For further information concerning the technical guides, email auction110@fcc.gov or contact the FCC Auctions Hotline at (717) 338-2868. For further information concerning this proceeding, contact the offices listed below:

Mobility Division, Wireless Telecommunications Bureau

3.45 GHz Service questions: Jon Markman at (202) 418-7090 or
Joyce Jones at (202) 418-1327

Auctions Division, Office of Economics and Analytics

Auction legal questions: Mary Lovejoy or Andrew McArdell at (202) 418-0660

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³⁶ *Auction 110 Procedures Public Notice* at 54-70, paras. 172-245.